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EXAMINER

HAUGLAND, SCOTT J

ART UNIT PAPER NUMBER

3654

DATE MAILED: 03/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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## Office Action Summary

Application No.

10/672,642

Applicant(s)

MIKELSONS ET AL.

Examiner

Scott Haugland

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-77 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-47, 49-68 and 72-77 is/are rejected.
- 7) ☒ Claim(s) 48 and 69-71 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 10, 11, 57, 58, 66, and 67 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

It is not clear how to make or use the drive indexed to travel a fixed distance equal to the number of tubular segments of the strand in the hang pattern described on page 4, lines 6-8 of the specification. A drive that only advances the strand the distance of one hang pattern would clearly be of no use, so the description must refer to a drive that runs at least intermittently. The distance that such a drive feeds material is indeterminate, so it is not clear what is meant by "indexed to travel a fixed distance". The distance traveled must be specified relative to some other event or point in time. E.g., the conveyor of the first described embodiment travels a fixed distance in a given time. In addition, it is unclear how the loading conveyor and the transport conveyor are to be coordinated using this drive.

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It is not clear how a fixed travel distance can be adjusted as described on page 4, lines 8-12. If the distance is adjusted on a continuous basis by a feedback control system, it would not be a fixed distance.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 27-44, 61-67, 72-74, 76, and 77 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "direct drive connection" in claims 27, line 3, claim 43, line 7, claim 72, line 3, claim 73, line 7 is unclear or inaccurate. It is not clear how the drive connection between motors 30, etc. and pulleys 18, 26, etc. could be considered a direct drive connection. The drawings show a motor connected through worm gearing to the pulleys. The pulleys are not integral with the motor shaft as would be expected of a direct drive connection between the pulleys and motor.

It appears that "intercepts" in claim 35, line 3, claim 36, line 2, and claim 37, line 2 should be "intersects".

The language of claim 61, lines 7-8 appears inaccurate since the channels formed in the disclosed transfer ramp are not parallel.

In claim 76, line 5, "said conveyor belt" lacks sufficient antecedent basis.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-8, 10, 13, 14, 20, 49, 54-57, 60-66, and 68 are rejected under 35 U.S.C. 102(b) as being anticipated by Wallace (U.S. Patent No. 3,620,431).

Wallace discloses a loading system for loading an elongated strand of food product 30 of a given diameter on a transport conveyor 46 comprising a first loading conveyor 41 and a second loading conveyor 40 spaced above the first loading conveyor. The spacing between the first and second loading conveyors is less than or equal to the diameter of the strand (col. 3, lines 9-11). The strand is conveyed by an indexed drive that is indexed to travel a fixed distance equal to the number of tubular segment in a hang pattern (col. 4, lines 35-42) during the time between presentation of successive hangers of the transport conveyor.

With regard to claim 6, each conveyor 39 has a drive which may include a motor, shaft, chain, or sprocket (col. 4, lines 59-67). The drive is indexed to drape a given number of tubular segments (sausage links) between adjacent rods (col. 3, line 30 - col. 4, line 58).

With regard to claim 7, Wallace discloses nine or eleven sausages draped between successive horizontal rods (T-bars 53) (col. 4, lines 42-44). In the case of nine

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sausages, for example, there would be four downwardly extending sausages, four upwardly extending ones, and one horizontal one. This is in the claimed range of 3 to 5.

Claims 1, 55, 57, and 58 are rejected under 35 U.S.C. 102(b) as being anticipated by Plewa et al (U.S. Patent No. 4,218,003).

Plewa et al discloses a loading system for loading an elongated strand of food product 1 on a transport conveyor (including chain 40 and hooks 42), comprising a first loading conveyor 10, a second loading conveyor 34, 36 spaced above the first loading conveyor by a gap having a dimension less than or equal to the diameter of the strand (note col. 3, lines 59-64). The drive is seen to be indexed since it causes the strand to travel a fixed distance between the times that successive transport conveyor hooks 44 are positioned below the conveyor to receive the strand. Sensor 24 senses tubular segments that make up the strand and sends feedback to the drive to adjust the distance traveled by the conveyor between the times the hooks 44 are moved into position below the conveyor, compensating for any slip between the strand and the conveyor.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9, 21, and 50-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wallace.

Wallace is described above.

Wallace does not explicitly disclose that the conveyor drives are indexed at a fixed speed. Wallace does not disclose idler rollers upstream of the first loading conveyor or that the loading conveyor belts are made of self-lubricating hygienic thermoplastic.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to run the continuously operating conveyors (note col. 4, lines 32-35) at fixed speed to avoid unnecessary accelerations of the motors, conveyers, etc.

With regard to claim 21, it would have been obvious to provide idler rollers upstream of the loading conveyors 39 or make rollers 31 of Wallace idler rolls since it is old and well known to guide materials using idler rollers. It would have been obvious to locate the idler rollers below the level of the loading conveyors to bridge the gap between the support 19 and the level of the conveyor. Note that claims do not exclude a conveyor such as 32 between the idler roller and the loading conveyor 39.

With regard to claims 50-52, it would have been obvious to make the belts of self-lubricating hygienic thermoplastic since it is well known to make food handling equipment of such material to prevent contamination of the food.

Claims 12 and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wallace in view of Simpson et al (U.S. Patent No. 5,971,842).

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Wallace is described above.

Wallace does not disclose that the drive is a servo motor.

Simpson et al teaches driving components of a food strand processing apparatus including strand loading conveyors 124 by servo motors, e.g., 126 (col. 4, lines 26-31).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Wallace with a servo motor for driving the loading conveyors as taught by Simpson et al to provide better control over the feeding process and the coordination between the loading conveyors and transport conveyor.

Claims 15-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wallace in view of Gage et al (U.S. Patent No. 1,654,871).

Wallace is described above.

Wallace does not disclose that the length of the second loading conveyor is less than the length of the first loading conveyor, that the downstream end of the second loading conveyor is spaced upstream from the downstream end of the first loading conveyor, or that the upstream end of the second loading conveyor is spaced upstream of the upstream end of the first loading conveyor.

Gage et al teaches making an upper conveyor (including chain 59) of a feeder for a strand of food product shorter than a lower conveyor (including chain 65) and spacing the upstream and downstream ends of the upper conveyor upstream of the respective ends of the lower conveyor.



It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the length of the second loading conveyor less than the first loading conveyor, to space the upstream and downstream ends of the second loading conveyor upstream of the corresponding ends of the first loading conveyor, and to make the spacing between the downstream ends greater than that of the upstream ends as taught by Gage et al since only the lower (first) conveyor of Wallace provides support against gravity for the strand, allowing the upper (second) conveyor length to be minimized by reducing its length to reduce size and expense of the conveyors and since it is clear from Gage et al that the upstream end of upper conveyor may extend upstream of the upstream end of the lower conveyor without adversely affecting operation of the conveyors while allowing different size pulleys to be used.

Claims 22-28, 30, 31, 33, and 72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wallace in view of Babbin et al (U.S. Patent No. 3,946,918).

Wallace is described above.

Wallace does not disclose a faceplate having an entrance guide comprising an annular bushing having a tapering inlet cone, idler rollers upstream of the loading conveyors 39. Wallace does not explicitly state that there is a single drive for both pulleys of the conveyors 39. Wallace does not disclose driven gears associated with the pulleys of the conveyors.

Babbin et al teaches providing a conveyor for strand material with a face plate 12 blocking access to conveyor belts and pulleys and having an entrance guide for the

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strand comprising an annular bushing having a tapering inlet cone. Babbin et al further teaches driving a pair of drive pulleys of the conveyor by means of a single drive.

Babbin et al further teaches providing a first driven gear on a first shaft rotatable about a first axis, a second driven gear on a second shaft rotatable about a second axis, and a drive gear on a drive shaft rotatable about a third axis.

With regard to claims 22-24, it would have been obvious to one having ordinary skill in the art at the time the invention was made provide the loading conveyors of Wallace with a faceplate having an entrance guide comprising an annular bushing having a tapering inlet cone as taught by Babbin et al to limit access to the feeding conveyors and their components for protection of workers and to maintain sanitary conditions. With regard to claim 24, note that the second rotary conveyor pulley is rearward of the first rotary conveyor pulley and the inlet of the modified apparatus of Wallace is rearward of the first rotary conveyor pulley when the rearward direction is, for example, in the direction from the axis of rotation of the downstream pulley of the first (lower) conveyor toward the axis of rotation of the upstream pulley of the second (upper) conveyor.

With regard to claims 25 and 26, it would have been further obvious to provide idler rollers upstream of the loading conveyors 39 or make rollers 31 of Wallace idler rollers since it is old and well known to guide materials using idler rollers. It would have been obvious to locate the idler rollers below the level of the inlets to the loading conveyors to bridge the gap between the support 19 and the level of the inlets.

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With regard to claims 27, 28, 30, 31, 33, and 72, it would have been obvious to provide Wallace with a drive for the drive pulleys of the conveyors 39 having a single drive for both pulleys, having first and second gears rotating about first and second axes, and having a drive shaft and drive gear rotatable about a third axis as taught by Babbin et al to provide synchronized drive to both pulleys to provide maximum feeding force to the food strand. It would have been obvious to connect a motor to the drive shaft. The resulting drive connection is seen to be a direct drive connection to the extent that Applicants' disclosed drive is since one pulley does not depend on rotation of the other pulley for its drive.

Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wallace in view of Babbin et al as applied to claim 28 above, and further in view of Simpson et al.

Wallace does not disclose a servo motor that drives the drive pulleys of the loading conveyors.

Simpson et al teaches driving components of a food strand processing apparatus including strand loading conveyors 124 by servo motors, e.g., 126 (col. 4, lines 26-31).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Wallace with a servo motor for driving the drive pulleys of the loading conveyors as taught by Simpson et al to provide better control over the feeding process and the coordination between the loading conveyors and transport conveyor.

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Claims 38 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wallace in view of Babbin et al as applied to claim 31 above, and further in view of Gage et al.

Wallace does not disclose driven gears associated with the pulleys of the conveyors.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to space the first axis from the second axis relative to the direction of travel of the strand as taught by Gage et al since it is clear from Gage et al that the upstream end of the upper conveyor may extend upstream of the upstream end of the lower conveyor without adversely affecting operation of the conveyors while allowing different sizes of pulleys to be used. The resulting apparatus has first and second axes spaced along a line extending transversely between the axes and obliquely relative to the forward travel direction and a third axis (of the drive shaft) extending obliquely relative to the forward travel direction.

Claims 43, 44, 73, and 74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wallace in view of Neubeck, Jr. et al (U.S. Patent No. 3,747,821) and Babbin et al.

Wallace is described above.

Wallace does not explicitly state that there are a plurality of motors, one dedicated for each pair of loading conveyors, that there is a single drive for both

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pulleys of the conveyors 39, or that there is a direct drive connection to the drive pulleys.

Neubeck, Jr. et al teaches providing a plurality of loading conveyors 90 with a plurality of motors 93, one dedicated for each conveyor.

Babbin et al further teaches driving a pair of drive pulleys of the conveyor by means of a single drive.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Wallace with a plurality of motors, one dedicated for each loading conveyor pair that drive each pair independently of the others as taught by Neubeck, Jr. et al to facilitate arrangement and positioning of the feeders by reducing required mechanical interconnections between them.

It would have been further obvious to provide Wallace with a single drive for both loading conveyors of each pair as taught by Babbin et al. It would have been obvious to connect a motor to the drive shaft to provide power to the conveyors as is old and well known. The resulting drive connection is seen to be a direct drive connection to the extent that Applicants' disclosed drive is since one pulley does not depend on rotation of the other pulley for its drive.

Claims 45, 46, 53, 75, 76 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wallace in view of Karius (U.S. Patent No. 3,054,545).

Wallace is described above.

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Wallace does not disclose a roller cam adjustably movable toward and away from conveyor belts of the loading conveyors. Wallace does not disclose cogged conveyor belts and pulleys.

Karius teaches providing a roller cam 100 for adjusting the gap between conveyors for a strand of food product.

With regard to claim 45, 75, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Wallace with a roller cam adjustably engaging one of the belts as taught by Karius to permit adjustment of the gap between the conveyors without moving the conveyor pulleys or their supports, thereby providing a simple adjustment mechanism.

With regard to claim 53, it would have been obvious to make the loading conveyor belts and pulleys cogged as is old and well known in the art to provide positive transmission of power from the pulleys to the belts, to eliminate slippage and provide greater control over the speed of the belts.

With regard to claim 76, it would have been a matter of obvious engineering choice to locate the roller cam on the second (upper) conveyor belt of Wallace since it would obviously be effective if applied to either belt.

Claims 47 and 77 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wallace in view of Karius as applied to claims 46 and 76 above, and further in view of Gage et al.

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Wallace does not disclose that the upstream pulley of the second conveyor is spaced rearwardly of the upstream pulley of the first conveyor.

Gage et al teaches spacing the upstream and downstream ends of the upper conveyor upstream of the respective ends of the lower conveyor.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to space the second upstream rotary pulley of Wallace rearwardly (upstream) from the first upstream rotary pulley as taught by Gage et al since it is clear from Gage et al that the upstream end of the upper conveyor may extend upstream of the upstream end of the lower conveyor without adversely affecting operation of the conveyors while allowing different sizes of pulleys to be used.

Claim 67 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wallace in view of Plewa et al.

Wallace is described above.

Wallace does not disclose a sensor sensing the individual tubular segments of the strand of food product and providing feedback to the drive of the loading conveyors.

Plewa et al teaches providing a loading conveyor for a strand consisting of a series of tubular segments with a sensor sensing individual segments and providing feedback to a drive of the loading conveyor to adjust the travel distance of the drive to feed a fixed number of segments regardless of any slippage between the conveyor and the strand.

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It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Wallace with a sensor sensing the individual tubular segments of the strand of food product and providing feedback to the drive of the loading conveyors as taught by Plewa et al to control the loading system while eliminating the need for the lugs 33 of Wallace which may damage the food product if they engage the body of a segment.

### ***Allowable Subject Matter***

Claims 32, 34-37, and 40-42 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Claims 48 and 69-71 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Neubeck, Jr. (U.S. Patent No. 3,552,620) and Nakamura et al (U.S. Patent No. 5,197,915) are cited to show sausage strand feeding apparatus. Palynchuk (U.S. Patent No. 3,559,905), Benedict et al (U.S. Patent No. 5,533,658), and Cherix (U.S. Patent No. 6,189,758) are cited to show adjustable conveyor pairs for strand-like material.



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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Haugland whose telephone number is (703) 305-6498. The examiner can normally be reached on Monday - Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kathy Matecki can be reached on (703) 308-2688. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*sjh*  
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3/2/05

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